

Arguments

In response to the rejections in the office action mailed on May 28, 2004, I respectfully present the arguments in petition for the office to reconsider the rejections.

To simplify the analysis the following the arguments has been presented as follows.

Arguments Summary, begin on page 24 and presents response to the written office action as well as the concerns informed by the examiner.

Detailed Arguments, begin on page 28 and presents a detailed response to the written office action following the same order in which rejections and amendments requirements were presented.

Arguments Summary

1. Scope

This summary present the arguments in favor of the “patentability” of the application number 10/064 533 presented as;

“Business model for the sale of recorded media through the Internet and other distribution channels adapted to the acoustic print and/or replay system set up of the customer”.

2. Patentability

To review if the disclosed business method is patentable I do a brief comparison with a granted patent dated may 30, 2000 entitled “Customer identification and Marketing analysis system” (Patent 6070147).

In brief patent 6070147 discloses the use of government IDs as identifier for frequent buyer marketing programs, government issued IDs complemented with government databases improves the efficiency of loyalty and marketing programs.

A comparison with the disclosed business method and 6070147 is:

US 6070147	10/064 533	Comments
Customer identification and marketing analysis system	Multichannel music records marketing Method	
It combines two widely deployed and very common things, government ID cards and loyalty marketing programs	It also combines two common things, multichannel records/reproduction with the power of e-business and IT.	Both methods sound very obvious, but in relation to the market there is an innovation in the combination proposed
Innovation is based on the use of the government issued ID card to identify the client instead of a vendor issued ID	Innovation is based on customize the multichannel record to allow the user to configure arrangements of speakers and channels that fit the best with his preferences.	Both innovations can be implemented using already available techniques. At the moment of disclose, both innovations are not being applied or used in the industry.

Claims are based on capture basic ID information about the consumer, complement this in formations with data from government databases then assembly and process this data electronically	Claims are based on the electronically assemble a customized multichannel record for marketing purposes.	If a company wants to use a government ID card to support it's loyalty marketing program will infringe the patent. If a company wants to sell customized multichannel records will also infringe the proposed patent.
Is disruptive when considering that replaces the vendor issued ID (that was distinctive and wined by merits) with a common and owned by everyone ID.	Is disruptive when considering; a) That translate the decision of "how it will sound better" from the studio expert to the consumer and b) That gives the consumer the power to build the sound system that better meets his desires instead of buy a standard system configuration from the store.	The market must also approve the "disruption", not all the loyalty programs use government ID cards (name one?). We cannot ensure that the market will endorse customized multichannel records, but it is still a disruptive and innovative way to do it.

The disclosed method should be patentable as a business practice as it posses a certain level of "real world" value with a clear practical application.

3. Response to the office action

The following table outlines the base of the response to the office action mailed in May 28,2004.

Arrangement of the Specification			
Article	Subjet	Objection	Response:
37 CFR	Content of the specification	Bold typeface	Specification was amended to fit the format requirement.
		Title is very lengthy	Title has been redefined to meet the criteria
		Related applications	Related application was properly identified
		Improper claim format	Claims were amended to correct the format
Claims rejections-35 USC 101			
Article	Subjet	Objection	Response:

35 USC 101	Content of the specification	Claimed invention is directed to non-statutory subject matter. Unclear.	The description of the invented business method has been improved and the claims amended to make clear the subject matter.
		Informality, Claim begins with Capital letter and ends with a period	
		Unclear what applications incorporates into customized	
		Unclear what is meant by the combination of multiple sound tracks, video...	
Claims rejections-35 USC 112			
Article	Subject	Objection	Response:
35 USC 112	Fail with the enabling requirement	Not comply with the enablement requirement	This objection is not applicable because the disclosed business method is supported on common and available technologies. Specification was amended to reflect this fact.
Claims rejections-35 USC 102			
Article	Subject	Objection	Response:
35 USC 102	Double Patenting	Anticipated by Claesson US 2002/0075965	Claesson discloses a technology not a business method
			Claesson proposed technology goal is to improve the sound quality. It separate a sound channel in sub channels using frequency filters then applies audio correction to each sub channel to finalize resembling the sub channels into one "improved" channel.
			There is no relation in between the Claesson proposal and the disclosed business method; Claesson goal is not to sell customized multichannel records.
			Please consider the removal of this objection.
Claims rejections-35 USC 103			

Article	Subject	Objection	Brief on HUNTER:
	Double Patenting	Anticipated by Hunter US 2002/0111912 A1	Hunter discloses a music distribution system that will support a standard media business method, similar to satellite TV.
			Hunter discloses:
			A music distribution system based on satellite transmission and set top boxes.
			Music is downloaded to the set top boxes over broadband transmission links like satellite.
			Set top boxes could be at the customer site or at a music distribution site in which the CD could be recorded with the selected music and then send to the customer.
			Response:
			The Hunter's system fits very well with the proposed business method. Hunter's system enables large bandwidth files to be downloaded to the set top boxes. Multi-channel records are large files.
			Also the set top box anticipated by Hunter supports a user interface for the customer to specify his preferences, with some modifications this interface may be expanded to support the proposed business model.
			Hunter system may be considered as an enabling technology for the business method proposed; this objection should not be taken in account. Please consider the removal of this objection.

Detailed Arguments

DETAILED RESPONSE TO OFFICE ACTION

1. Rejection to the specification

Response to Claim rejections, arrangement of specification as per 37 CFR 1,77 (b), Sections included.

Application was amended to comply with 37 CFR 1,77 (b)

2. Rejection to the content of the specification

Response to Claim rejections, content of specification as per:

- (a) Title of the invention: 37 CFR 1,72 (a) and MPEP 606.
Application was amended to comply with 37 CFR 1,72 (a) and MPEP 606.
- (b) Cross Reference to Related applications: 37 CFR 1,78 (a) and MPEP 201.11.
Application was amended to comply with 37 CFR 1,78 (a) and MPEP 201.11.
- (c) Statement regarding Federally Sponsored R & D: MPEP 310.
Application was amended to comply with MPEP 310.
- (d) Incorporation-By-Reference Of material Submitted On a Compact Disc: 37 CFR 1.52 (e); MPEP 608.05 [37 CFR 1.96 (c); 37 CFR 1.821(c)] and MPEP 608.05(a).
Application was amended to comply with 37 CFR 1.52 (e); MPEP 608.05 [37 CFR 1.96 (c); 37 CFR 1.821(c)] and MPEP 608.05(a).
- (e) Background of the Invention: MPEP 608.01.
Application was amended to comply with MPEP 608.01.
- (f) Brief Summary of the Invention: MPEP 608.01(d) and 37 CFR 1.73.
Application was amended to comply with MPEP 608.01(d) and 37 CFR 1.73.
- (g) Brief Description of the Several Views of the drawing(s): MPEP 608.01(f) and 37 CFR 1.74.
Application was amended to comply with MPEP 608.01(f) and 37 CFR 1.74.
- (h) Detailed Description of the Invention: MPEP 608.01(g) and 37 CFR 1.71.
Application was amended to comply with MPEP 608.01(g) and 37 CFR 1.71.

- (i) Claim or Claims: MPEP 608.01(m) and 37 CFR 1.75.
Application was amended to comply with MPEP 608.01(m) and 37 CFR 1.75.
- (j) Abstract of the Disclosure: MPEP 608.01(f) and 37 CFR 1.491; MPEP 1893.03
- (e) Application was amended to comply with MPEP 608.01(f) and 37 CFR 1.491; MPEP 1893.03 (e).
- (k) Sequence Listing: MPEP 2421-2431 and 37 CFR 1.821- 1.825.
Application was amended to comply with MPEP 2421-2431 and 37 CFR 1.821- 1.825.

3. Claim rejections- 35 USC 101, Directed to non-statutory subject Matter

Claim(s) Informalities: MPEP 609.01(m)

Claims were amended to comply with MPEP 609.01(m).

Claim(s) are Unclear

Claims were amended to make statements more clear.

4. Claim rejection – 35 USC 112, not comply with the enablement requirement.

Based on the application the examiner concludes that: *“the hardware and software necessary to implement the invention according to applicants own admission did not exist at the time of the invention and thus, the claims are not enabled”*.

The proposed invention is a business method that changes the way in which recorded music is currently marketed and sold, in such context the technologies to enable the invented business method are commonly deployed, what the invention proposes is to use the current technologies in a different way to improve the value for the customers.

Application was amended to reflect this fact.

5. Response to claims rejections 35 USC 102, Double Patenting, Anticipated by Claesson US 2002/0075965

Introduction

To analyze the differences in nature, objective and embodiment, below is a selection of some significant paragraph of Claesson US 2002/0075965 invention.

In brief, Claesson discloses a technology not a business method.

As shown below, Claesson do not anticipate the Business Method proposed, Claesson invention has:

- Different objective.
- Different type, Claesson invention is a technique.

All Claesson extracts are shown in cursive.

Claesson Analysis

Claesson application presentation

Claesson presentation:

[0001] The present application is a continuation-in-part application of U.S. patent application Ser. No. 09/927,578 for DIGITAL SIGNAL PROCESSING TECHNIQUES FOR IMPROVING AUDIO CLARITY AND INTELLIGIBILITY filed on Aug. 6, 2001, which is a continuation-in-part of U.S. patent application Ser. No. 09/669,069 for TECHNIQUES FOR IMPROVING AUDIO CLARITY AND INTELLIGIBILITY AT REDUCED BIT RATES OVER A DIGITAL NETWORK filed on Dec. 20, 2000, the entire disclosures of which are incorporated herein by reference for all purposes.

Analysis:

Claesson discloses a technique to improve audio clarity and intelligibility at reduced bit rates.

The invention objective is completely different from emulate the presence of the performing artist by means of produce a customized multichannel record.

Claesson Claims

Claesson Claims extract:

At least one computer readable medium having computer program instructions stored therein for effecting automatic gain control for a plurality of sampled signals each corresponding to one of a plurality of channels, each channel having an initial gain factor associated therewith, the computer program instructions comprising: first instructions for setting an attack threshold for each of the channels, at least one of the attack thresholds being different than others of the attack thresholds; second instructions for applying at least one release multiplier greater than one to each of the initial gain factors when none of a plurality of results of trial multiplications of the initial gain factors and the corresponding sampled signals exceeds its associated attack threshold, thereby generating first modified gain factors; third instructions for applying at least one attack multiplier less than one to each of the initial gain factors when at least one of the results of the trial multiplications exceeds its associated attack threshold, thereby generating second modified gain factors; and fourth instructions for applying final gain factors corresponding to either the first or second modified gain factors to the plurality of sampled signals.

Analysis:

The Claesson's principal claim defines the invention as "effecting automatic gain control" over "a plurality of "channels". It is clearly a technique and the only thing that related this with my disclosed business method is the word "channels", and

Claesson uses the word channels in a fully different context and meaning as described later.

Claesson description extracts:

[0009] That is, the ranges of listening environments, music types, and listener preferences make it virtually impossible to provide signal processing at the digital audio source which appropriately enhances the listening experience for each end user. This is exacerbated in systems in which the loudness level across the variety of available content is inconsistent. The processing capabilities which would enable customization according to each user's preferences may, of course, be included in the user's device. However, the cost of doing so in either hardware or processing resources has heretofore been prohibitive, not to mention technically challenging. This is particular true for the low cost, portable devices consumers demand.

Analysis:

In this particular paragraph at the Claesson Invention Background it states that the customization process that I proposes is virtually impossible and out of the scope of his invention. Claesson invention then should be focused on "low cost portable devices that consumers demand".

[0010] It is therefore desirable to provide digital signal processing techniques which remove undesirable artifacts generated by digital encoding techniques (particularly low bit rate techniques), allow for customization of each listener's experience, and present a relatively small load on the processing resources of the audio delivery system.

Analysis:

This is key to understand the Claesson proposition, Claesson is proposing a technique to remove undesirable artifacts generated by digital encoding techniques.

[0012] More specifically, the present invention provides methods and apparatus for effecting automatic gain control for a sampled signal. Specific embodiments are described as algorithms that depends on certain parameters that can be selected depending on the application and the desired effect. These parameters include an attack threshold, a release multiplier less than one, and an attack multiplier greater than one. The parameters may optionally include a non-linear final gain function.

[0075] Additional embodiments of the present invention will now be described with reference to FIGS. 9a and 9b and subsequent figures. FIGS. 9a and 9b show a 5-band signal processor 900 designed according to a specific

embodiment of the present invention. It should be noted that the processing blocks of processor 900 operate in a similar manner to the corresponding blocks of processor 30 described above with reference to FIGS. 1a and 1b. It should also be understood that processor 900 may be employed for a wide variety of applications, particularly those application which have sufficient processing overhead to accommodate the associated computational load presented by this configuration.

[0076] Referring now to FIG. 9a, the received digital audio samples are high pass filtered in filter block 902 to suppress the DC component and other unnecessary signal components below 5 Hz. The filtered samples are then pre-processed in one of four parallel paths referred to herein as the "transparent," "dual brick wall," "wideband," and "brick wall" paths, respectively.

[0077] According to a specific embodiment of the invention, the "transparent" path divides the audio into two bands (bass and master) and processes them individually (with the bass band coupled to the master band). This can be thought of as a standard mode having negligible effect. The "dual brick wall" path is the same as the "transparent" path except that it is more audible in its gain changes. The "wideband" path processes the full-range audio with only one AGC. This provides slight spectral gain intermodulation which, in some embodiments, is exploited by the certain presets (e.g., rock presets). The "brick wall" path is like the "wideband" path but provides considerable spectral gain intermodulation which, according to various embodiments, may be exploited by certain presets (e.g., so called club or house presets).

[0078] The pre-processed audio is then divided into five frequency bands using 2-way crossover blocks 952-955 having cutoff frequencies of 80 Hz, 200 Hz, 2 kHz, and 8 kHz, respectively. This may be accomplished, for example, as described above with reference to the multi-band crossover of FIG. 3. The samples in each of Bands 1-5 are then subjected to further processing as follows.

[0079] Noisegate blocks 961-965 remove components of the audio signal that are below a certain level of amplitude. Delay blocks 956-960 are used by noisegate blocks 961-965 for look-ahead/negative attack time.

[0080] Drive blocks 966-970 represent user programmable gain adjustments which uniformly exaggerate the received signal component as it goes into the following AGC block (i.e., 971-975) which works to reduce changes in the gain. According to a specific embodiment, for every nth sample that doesn't overshoot its threshold, each of AGC blocks 971-975 incrementally increases its gain. Likewise, for every mth sample which does overshoot the threshold, each of AGC blocks 971-975 incrementally decreases the gain. According to a more specific embodiment, the release function of AGC blocks 971-975 is given by:

$gain = gain + (gain * release)$

[0081] and the attack function of AGC blocks 971-975 is given by:

$gain = gain - (gain * attack)$

[0082] where “release” and “attack” represent the release and attack time constants, respectively.

[0083] Drive blocks 976-980 are another set of user programmable gain adjustments which precede negative attack time limiters (NATLs) 981-985. For some signal transients which occur quickly, AGCs 971-975 may not react quickly enough and some overshooting samples would go otherwise go untreated resulting in a sharp overshoot at the beginning of the transient. To deal with this, NATLs 981-985 look at future samples and limit the gain of the current sample to avoid the distortion associated with such sharp overshoots. The lower the threshold is set, the more “dense” the sound becomes.

[0084] Each of drive blocks 986-990 is the inverse of the corresponding one of drive blocks 976-980. Each of drive blocks 976-980 works in concert with the corresponding one of inverse drive blocks 986-990 to adjust the effective range of operation of the corresponding one of NATLs 981-985. In addition, in band 1, e.g., sub-bass, drive block 986 feeds soft clip block 991 which corresponds to a nonlinear function which essentially rounds off the waveform, creating harmonics which create the perception that there is more bass than there is, i.e., within the same peak-to-peak excursion of the input signal there is a lot more acoustic energy in the output because of the harmonics.

[0085] Mixer block 992 which has independently controllable gain for each band is followed by a final NATL 993 which limits the total peak of the combined bands, e.g., constructive interference between peaks in different bands may cause peaks which need to be dealt with. NATL 993 is followed by Clip block 994 which removes any remaining overshoots from the signal.

Analysis:

The paragraphs above explains Claesson use of “Channels” to improve the audio clarity by means of applying automatic gain control, Claesson filters and divide the input audio signal in different “Band Channels”. To each band channel automatic gain control are applied following mathematics functions to be resembled after in one channel with better “clarity”.

Claesson do not attempt to offer to the market a “customized multichannel record”. Claesson invention is focused in software to be embedded at the reproduction devices for digitally encoded audio files in order to “remove coding

artifacts" by means of automatic gain controls applied with different threshold to different band portions.

6. Response to claims rejections 35 USC 102, Double Patenting, Anticipated by Hunter US 2002/0111912 A1

Introduction

To analyze the differences in nature, objective and embodiment, below is an analysis of a selection of some significant paragraph of Hunter US 2002/0111912 A1.

In brief, Hunter discloses a music distribution system that will support a standard media business method, similar to satellite TV. Technology.

As shown below, Hunter do not anticipate the Business Method proposed, Hunter invention has:

- Similar objective, to sell music records, but a different approach, Hunter proposition is to sell standard music records allowing the customer "customize" the selection and not the records itself.
- Different type, Hunter proposes a system.
- Hunter is not concerns about the type of records to be sold, Hunter focus is on the ability to download the records into a set top box.

All Hunter extracts are shown in cursive.

Hunter Analysis

Hunter application presentation

Hunter Abstract:

Music is blanket transmitted (for example, via satellite downlink transmission) to each customer's user station where selected music files are recorded. Customers preselect from a list of available music in advance using an interactive screen selector, and pay only for music that they choose to playback for their enjoyment. An antipiracy "ID tag" is woven into the recorded music so that any illegal copies therefrom may be traced to the purchase transaction. Music is transmitted on a fixed schedule or through an active scheduling process that monitors music requests from all or a subset of satellite receivers and adjust scheduling according to demand for various CD's. Receivers store selections that are likely to be preferred by a specific customer. In those instances where weather conditions, motion of atmospheric layers or dish obstructions result in data loss,

the system downloads the next transmission of the requested CD and uses both transmissions to produce a "good copy". In conjunction with the blanket transmission of more popular music, an automated CD manufacturing facility may be provided to manufacture CD's that are not frequently requested and distribute them by ground transportation.

Analysis:

Hunter discloses a system to sell music records, music files are downloaded into the *customer's user station* then the customer pays to play the files.

The Hunter invention objective is completely different from emulate the presence of the performing artist by means of produce a customized multichannel record.

Hunter Claims

Hunter Claims:

1. A system for distributing music to customer households, comprising: a data transmission system blanket transmitting a plurality of music selections to customer households in digital form; a user station at each of a plurality of customer households, the user station including; means permitting the customer household to preselect desired transmitted music selections for recording; a receiver and associated high capacity storage medium for recording preselected music selections in digital form; an audio output for outputting audio signals from the storage medium to a playback device so that the customer household may playback those recorded music selections it wishes to enjoy; a central controller system having a database for storing therein an address corresponding to each customer household; a communications link between each customer household and the central controller system to verify to the controller system when a preselected music selection has been made available for playback; and a billing system associated with the central controller system to bill customer households for music selections that are made available for playback.
2. A method of distributing music to customer households comprising the steps of: blanket transmitting a plurality of music selections to customer households by direct

broadcast satellite (DBS) at data transmission rates faster than real time; providing each customer household with information identifying available music selections that will be transmitted; permitting each customer household to preselect and record desired music selections on a high capacity storage medium; permitting each customer household to playback recorded music selections; communicating music playback information from each customer household to a central controller system; and billing customer households for the recorded music selections that are made available for playback.

Analysis:

The Hunter claims clearly proposes a music distribution system that make use of broadband transmission capabilities downloading music files *at data transmission rates faster than real time*.

What Hunter have in common with my proposed invention is that the Hunter System have similar steps in the purchasing process, in effect customer may select what he wants and ordered it. By no means Hunter anticipated my invented business method because Hunter system do not allow any customization or flexible multichannel reproduction.

Hunter description extracts:

[0015] The present invention provides music distribution systems that are beneficial to all involved parties, namely consumers, content providers and data transmission providers. In certain embodiments, consumers are able to preselect music selections from thousands of CD's that are transmitted daily. Customers of the music distribution system utilize a menu driven, graphical user interface with simplified controls that provide music selection by artist, title and category (e.g., jazz, classical, rock, etc.). Music content is blanket transmitted, preferably via direct broadcast satellite (DBS), in an encoded format directly to each customer's receiving dish or antenna which is linked to the customer's user station (set top box). In certain embodiments, the user station may store the content on a suitable intermediate storage medium such as a disk drive. The customer may "preview" the stored music for free and thereafter decide whether to purchase a permanent copy. If the purchase decision is made, a full quality CD is recorded via a CD writer that may be part of the user station. The customer is billed by the music distribution system operator. Antipiracy protection is provided by weaving an ID tag into the recorded music so that any illegal copies there from may be traced to the purchase transaction. An automated production facility may be

provided to manufacture low-volume CD's (i.e., CD's that are not frequently requested) and distribute them by ground transportation, while the higher volume CD's are distributed by satellite as described above.

Analysis

This description outlines the nature of Hunter invention and allow to verify the remarkable differences with the business method I proposes. In brief:

Hunter do not aim to:

- Sell multichannel records.
- Customize the records in any manner.
- Expand the music records offer into a new type of record that allows to emulate the performer's presence.

[0016] In other embodiments, the music that is selected for recording at a particular customer's user station is recorded in encrypted format on a relatively large, dedicated portion of the user station's hard disk drive from which it is directly accessed by the customer for listening. This embodiment serves as a "digital jukebox" that overcomes certain piracy considerations associated with recording the music onto conventional media such as CD's and DVD's.

[0017] Customer music preferences may be used to determine what content is stored in the limited space on their hard drive, and that content is immediately available, on demand, to the consumer. Customer preference information is thereby used to make use of limited broadcast bandwidth and system storage. This preference information is gleaned from information given by the user, and may be combined with demographic preference information collected from a population of customers.

[0046] According to preferred embodiments of the present invention, data transmission is achieved utilizing geostationary satellites operating in the KU band that are downlinked to conventional receiving antennae or dishes located at the customer households.

[0079] In a more customer-specific manner of carrying out the invention, different sets of recordings are automatically downloaded at customer user stations according to the music preferences of the customer. For example, each customer may use the graphical user interface (see FIG. 9) to select those music styles (e.g., classical, country, new age) they most prefer. The system operator uses this information to tailor the automatic downloads to that customer's user station accordingly. In a simple application, the system operator may create, for

example, 10 to 20 standard customer profiles so that each customer receives automatic downloads for the one of those profiles which he most closely matches. The objective is for the intermediate storage to have available for on-demand recording a large percentage of the recordings that any particular customer may be interested in at any given time--or at least have those recordings available to the customer over a period of time as new entries into intermediate storage overwrite older entries, recognizing that at all times the customer is free to order any music selection from the catalog.

[0080] As described above, the system operator may create, for example, 10 to 20 customer profiles and assign each customer to one of these profiles according to music preference information entered by the customer. Thereafter, the customer receives (e.g., daily) the set of automatically downloaded recordings for his particular profile category. However, in other embodiments of the invention, customer preference information may also be used in a more sophisticated fashion to tailor the profiles to the individual tastes of a customer or the tastes of the customer household family members. To this end, the customer may use the graphical user interface (FIG. 10) to enter music preferences at a desired level of detail. As shown in FIG. 10, a first level of detail is the selection of one or several styles of music (similar to the selection made in connection with FIG. 9). In addition, the customer may go to a second step where each selected style may be further subdivided by, for example, female artists, male artists, top twenty artists this month, top twenty songs this month, etc. A third level of selection permits identification of specific artists. Other means for subdividing interest areas under a particular style of music be used (e.g., jazz/saxophone, classical/opera/tenors). However the expression of musical preferences is made, this information may be used alone, or in conjunction with other information, to permit the customer's user station to download to intermediate memory (e.g., 80 CD capacity) an ongoing, rolling selection of recordings that will most likely match the preferences of the customer.

Analysis

Above paragraphs outlines the way in which Hunter proposes the “customization” by taking in account the customer preferences regarding the type of music.

7. Claims rejection – 35 USC 103, Double patenting

Claesson Anticipation

According the examiner:

“ Claesson discloses a method of transmitting to a customer a version of a performing art record of audio, video and/or Data that has been derived from a

master record (i.e. an original sampled signal) and specially customized to fit the customer's reproducer device and acoustic profile (i.e. included in the user's preferences in either the user's device or in) of the reproducer's location and/or customer uses and/or customer preferences"

The Claesson's paragraph 104 quoted below may be the source for the above examiner's interpretation:

[0104] Many of the drawbacks of current digital broadcasting schemes relate to the fact that the audio processing occurs at the source of the audio signal, i.e., the digital broadcaster's radio transmitter, and as a result cannot meet the specific needs of each individual listener. Therefore, according to a specific embodiment of the present invention, a digital broadcasting system is proposed in which the digital signal processing techniques of the present invention are employed to overcome this problem. That is, processing capabilities are provided in the radio receiver which will allow customization of the listening experience according to each listener's preferences.

But when this paragraph is reviewed in the context of the Claesson invention it results in an alternative use of the Claesson disclosed technique to "remove undesirable artifacts generated by digital encoding techniques". When Claesson refers to customization the idea allocate his proposed signal processor technique at the receivers side and send the "parameters" that are the main inputs to his technique together with the records to achieve the "broadcaster's desired sound". At some extent this could be considered customization in the sense that will allow each broadcast station to differentiate its sound, but in no way anticipated the business method proposed in 10/064,533.

Claesson description is below as reference.

[0105] FIGS. 12a and 12b are simplified block diagrams of a digital audio broadcasting (DAB) station 1200 and a DAB receiver-side system 1250, respectively. Radio station 1200 receives the program audio signal which may be an analog signal which is subsequently converted to a digital signal by A/D converter 1202 or an AES/EBU digital signal, one of which is then encoded using the station's codec 1204. The resulting AES digital audio signal is then provided to IBOC exciter 1206 which uses it to modulate a broadcast RF signal.

[0106] The output AES digital signal is also provided to a signal processor 1208 designed according to the present invention. According to a more specific embodiment, processor 1208 comprises processor 900 of FIGS. 9a and 9b. However, it will be understood that any of a variety of embodiments of the invention may be used.

[0107] Processor 1208 is configured by the digital broadcaster via control

interface 1210 to effect a variety of goals including, for example, providing the station's "signature" sound. The resulting audio signal may be monitored by the broadcaster's personnel via an off air monitor 1212 which receives both a processed AES/EBU digital signal and a two-channel processed audio signal provided by D/A converter 1214. In this way, the broadcaster's desired sound can be achieved.

[0108] Unlike previously described embodiments, processor 1208 does not process the digital audio prior to transmission. Instead, low speed digital data representing the desired processor configuration are provided to exciter 1206 for transmission on the RF signal along with the digital audio. These data may then be employed by the listener's system to configure a corresponding signal processor on the receiver side to process the digital audio signal in accordance with the broadcaster's programmed scheme. The configuration data set may include any of the parameters for any of the processor blocks, and may be less or more inclusive according to the broadcaster's design.

[0109] Referring now to FIG. 12b, DAB receiver-side system 1250 includes a DAB receiver 1252 and a compact disc (CD) player 1254 each of which may be controlled by the user via control circuitry 1256 which may include, for example, a remote control (not shown). As shown in the figure, the user may select between receiver 1252 and CD player 1254 as the audio source.

[0110] If the user selects DAB receiver 1252, both the PCM audio data and the low speed processor configuration data sent by station 1200 are provided to signal processor 1258 which, according to a specific embodiment comprises processor 900 of FIGS. 9a and 9b. It will, however, be understood that any of a wide variety of implementations may be used. Processor 1258 is configured according to the received low speed data and processes the digital audio data accordingly. The listener may customize the configuration of processor 1258, augmenting or completely overriding the broadcaster's default configuration using control interface 1260 which, according to the embodiment shown, is also operable to control the system's volume, balance, and fader functions represented by block 1262.

[0111] Processor 1258 provides the processed digital audio samples to D/A converter 1264 which, in turn, provides the converted analog signal to volume/balance/fader block 1262, the output of which is provided to amplifiers 1266-1269 which drive speakers 1270-1273, respectively.

[0112] In this way, the listening experience provided by the digital broadcasting system can be customized to conform to each listening environment and according to each listener's preference, while retaining some level of control for the baseline experience in the hands of the broadcaster. That is, according to various embodiments, the user is given the option of selecting the predefined default processing configuration provided by the digital broadcaster, altering that

configuration in some way, or completely overriding. The integration of these capabilities into the listener's system is made possible, at least in part, by the fact that the processing techniques of the present invention may be implemented with a very small impact on the processing resources already available in most such systems.

[0113] In fact, the low impact of the signal processors of the present invention makes these processor ideal for integration into a wide variety of applications. One such application is in a satellite television system such as the one shown in FIG. 13. As represented by boxes 1302, 1304, and 1306, satellite system 1300 employs a variety of disparate sources for the content it transmits to customers. This typically results in an uneven loudness across different channels and even for different content on a single channel which is undesirable from the end user's perspective.

[0114] This may of course be dealt with by integrating the processing techniques of the present invention into the satellite system's head end equipment. However, as discussed above with reference to the digital broadcasting context, this only addresses part of the problem. It still does not allow for customization of the individual user's listening experience. Therefore, according to the embodiment of the present invention, the processing techniques of the present invention are integrated into the user's equipment in much the same way as in the digital broadcasting system to provide the desired signal processing capabilities.

[0115] Referring again to FIG. 13, different types of content (1302, 1304, and 1306) are provided to the head end's satellite uplink 1308 which may or may not include some level of signal processing capability either according to the present invention or some other technique. The content is transmitted to satellite 1310 which then transmits the content to a user's antenna 1312 for decoding by a set top box 1314 and presentation on television 1316. According to one embodiment, a signal processor designed according to the present invention (e.g., processor 1100 of FIG. 11) is included in set top box 1314 and may be configured according to configuration data transmitted along with the content by the satellite provider in a manner similar to that described above with reference to FIGS. 12a and 12b. Alternatively, a default configuration may be provided in the set top box itself. In either case, the user can either alter or override the default processor configuration using, for example, a menu driven interface which is accessed via television 1316 and an associated remote control (not shown). It will be understood, of course, that the preceding discussion applies equally well to a cable television system.

Hunter anticipation

According the examiner:

Hunter discloses that current music distribution has numerous failings..... Hunter further teaches a method that is designed to distribute an maximize revenue that customize the recordings for the customers based upon a customer profile that takes into account sales conditions and/or customers preferences and that protect against losses in profits form piracy...

In point 6 above, Hunter invention is analyzed in detail, when it comes to support the Hunter anticipation to the application 10/064,533 there is no enough relation to conclude that 10/064,533 will infringe in any way Hunter invention and vice versa.

Double Patenting

Please refer to the remarks section in page 44.

Remarks

Me, the applicant respectfully request:

- a) The withdraw of the rejections presented to application 10/064,533.
- b) The reconsideration of the amended application.
- c) A timely Notice of Allowance

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Luis Felipe Guglielmucci', with a large, stylized initial 'L'.

Luis Felipe Guglielmucci

Customer Number:32529

Direct Phone: 56 9 372 5413

Mobile Phone: 56 9 821 8893

Home Phone: 56 2 283 5923

Attachments

Appendix 1

Marked up version for the substitute specification

MULTICHANNEL MUSIC RECORDS BUSINESS METHOD

~~Business model for the sale of recorded media through the Internet and other distribution channels adapted to the acoustic print and/or replay system set up of the customer~~

Abstract

The proposal constitutes a business model for selling recorded media, through the Internet and other channels, adapted to the acoustic print and replay system set up of the customer. The proposal's main objective is to sell edited copies of the original record in order to produce a richest experience for the customer, based on the unique characteristic of the customer's reproducer system and the acoustic characteristics of the customer's listening site. The proposal attempts to face the current media problems, specially the popular music industry, raised because the home appliances industry is nailed in the HIFI STEREO paradigm where innovation is coming from fancy designs, the Media Industry is finding hard to protect its copyrights due to the disruptive ways of exchange files provided by Internet and finally, because the talent source, the artists, especially the famous ones are looking at Internet as a much more profitable distribution channel.

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Claims

What is claimed is:

1. What I claim as my invention is the method of sale to a customer a version of a performing art record, mainly but not limited to music, video and data files, that has been derived from a master record and specially customized to fit the customer's reproducer device and acoustic profile of the reproducer's location. Customization could also involve sales conditions and/or customer's uses and/or customer's preferences.

2. What I claim as my invention is the combination of the multiple sound tracks, video files and data files available in an original performing art record into a customized group of sound, video and data files that fits the customer's reproducer device and acoustic profile of the reproducer's location to enrich the customer experience and meet the sales conditions and/or customer's uses and/or customer's preferences.

Description

CROSS OTHER RELATED APPLICATIONS

[0001] REFERENCE TO RELATED APPLICATIONS

[00012] n/a

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND DEVELOPMENT

[0002] n/a

INCORPORATION BY REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISK

[0003] n/a

THX-DTS

BACKGROUND OF THE INVENTION

~~[0003]~~ FIELD OF THE INVENTION

[0004] The field for the disclosed invention is the area of "Automated Financial/Management Business Data Processing Method Patents." U.S. Patent Class 705.

DESCRIPTION OF THE RELATED ART INCLUDING INFORMATION DISCLOSED UNDER 37 CFR 1.97 AND 37 CFR 1.98

[0005] The present invention relates to the production and marketing of a new kind of expanded music records. In particular the present invention discloses a business model for sale of a multi-channel record (more of 2 tracks) produced by means of a customized mixing of a master audio multi-track record.

~~Sources of Inspiration~~

[00064] Recorded Music consumers have two main ways for obtain the product, purchase a recorded media at a store, physically or virtually and/or download the content from the WEB.

~~The recorded music is a high technology soundtrack, professionally shaped, mixed, equalized and cleaned. This product goes into the Entertainment Industry where it's promoted, branded and sold. There is also, a House Appliance Industry for recorded music purchase and users that buy the products of both industries.~~

[00075] In any case, the product obtained corresponds to a stereophonic record or a fixed non customized multichannel record with different quality levels, i.e. low quality using encoding and compression algorithms for audio files to be transported through the Internet like MP3, and high quality records on CD media.

~~A brief revision of the Music industry shows us this situation:~~

[00086] End customers never have access to the master records. Master records obtained in studios (or live) are a collection of multiple sound tracks; in general instruments are recorded individually as well as the voices or special effects.
~~Artists are looking to Internet as a much more profitable distribution channel.~~

[00097] Audio studios are able to manage high quantities of different tracks, normal numbers are 32 or 64 tracks.

~~The Entertainment Industry is threatened by Internet based copy and distribution software (i.e. Napster), finding harder to protect its copyrights.~~

[001008] Prior to become a sellable product, these tracks are professionally mixed to produce a stereo record, a 2 channel record, left and right or a multichannel record that follows some of the surround standards of the industry, i.e ITU 5.1, ITU 7.1, THX etc. Developed for surround mainly at home theaters.

~~The Home Appliances Industry is nailed in the HIFI STEREO paradigm were innovation is coming from fancy designs.~~

[001109] In the past the industry has done some attempts to improve the listener experience, an example is the Quadraphonic Approach, which provides 4 channels instead of 2. Quadraphonic records were made and Quadraphonic reproducing equipment sold in small quantities. Other approaches looking for a true surround experience are the already mentioned ITU 5.1, ITU 7.1, THX, binaural methods, and some special fixed multichannel approach like first order Ambisonic (4 channels) or second order Ambisonics (9 channels).
~~Current paradigms don't allow artists and enterprises, to see that the "Listen to Music Experience" can be improved with the technology already available at a level that obsoletes current solutions, reshaping the entire industry.~~

[001210] The 2 channel approach still prevails as the dominant model mainly because the perceived quality gap in between the mentioned methods is only apparent to a reduced portion of the consumers.

[0013] Recently, 3 to 5 years from now, much more multichannel reproduction equipments are being delivered by the industry, mainly following the improvements in video media like the DVD, the multichannel reproduction is becoming common in the market.

[0014] What the business method disclosed pretends is not to create a only surround sensation, but allow the consumer to emulate the musicians performance at his own place, the goal is that the drums sounds as if the drummer were playing at customer's living room or the singer singing by the customer's pool side, independent of how the customer have listened the same music over the radio.

General Industry and Technology Overview

~~[0011] Actual recording technology includes multiples tracks digital recording (32, 64 and over), where one microphone or more are assigned to each instrument obtaining a high fidelity digitally recorded track of each player. The tracks are mixed altogether into 2 separated record channels, RIGHT and LEFT, representing the "Stereo Music"~~

~~[0012] The assumption was that reproducing each record trough two high quality speakers, the music's sensation of profundity and volume would be reproduced. What hamper this technique are the multiple uncontrolled sound's reflections and attenuations that occurs at the reproduction site.~~

~~[0013] In order to reproduce music resembling accurately the site and atmosphere in which it was created, we need to deal with unlimited diverse reproductions sites.~~

~~[0014] Three facts support this invention:~~

~~[0015] There are no technological barriers that prevent music vendors to successfully deal with unlimited unique reproduction sites and multichannel music records.~~

~~[0016] Music vendors will produce unique versions for each customer's reproduction setup, creating barriers to the copyright infringement.~~

~~[0017] The art market and human nature have proven that the willingness to pay for an art manifestation is strongly correlated with its originality.~~

BRIEF SUMMARY OF THE INVENTION

~~[00158] ____ The invention is a Business Method for the sale of multichannel music records recorded media through the Internet and other distribution channels adapted to the customer's preferences and/or acoustic characteristics of the reproducing environment print and/or replay system's setup, the listening environment's acoustic characteristics and the sale's terms and conditions, comprising the recording, storage and sale of music and related performing arts (video clips, images, files, etc.).~~

~~[00169] ____ In one embodiment, the present invention solves the problem of the prior art by providing a way of improve the listener experience making available for the consumers customized multichannel audio records.~~

~~[0017] ____ Multichannel audio records will require also multi-channel reproducers systems able to gather, store and reproduce the multichannel records.~~

~~[0018] ____ Multi-channel audio records have many advantages in relation to the prior art:~~

~~[0019] ____ Allow the end user to specialize the speakers, i.e. speakers for human voice, drums, strings etc.~~

[0020] Allow directional sound (depending on the speaker arrangements), in example sound coming from the front/behind and/or upper or lower or combinations to enrich the listener's experience.

[0021] Allow the removal of specific music components at listener's discretion.

[0022] Allow the introduction of specific corrections to problems at the reproducing environment.

[0023] This invention consists on a business method to provide the end consumer customized multichannel records to fit and be reproduced in a multichannel custom reproducer system at a specific environment reproducing facility. The invented business method involves the on demand producing of a customized multichannel record taking in account the following characteristics of the customer:

[0024] Enabled channels at the reproducer; the reproducer equipment supports a flexible number of channels that each customer could assign and use in a flexible way that depends on his/her specific music listening requirements.

[0025] Type of speaker attached to each reproducer channel; each output channel at the reproducer equipment could be connected to different type of speakers, in example "Bass specialized speaker", drums speaker or voice speaker.

[0026] Reproducing environment characteristics; reproducing environment could be very different; in example a reproducing environment could be small as a typical living room or big as an auditorium.

[0027] The reproducer equipment may be able to obtain an acoustic profile of the reproducer environment that may be taken in account at the moment of produce the multichannel record on demand.

[0028] Speakers' distribution; the speakers distribution may be taken in account at the moment of produce the multichannel record on demand according the customer preferences.

[0029] Related media and data requested by the customer; together with the audio record also in the customization process other data may be added according the customer preferences, examples of the related media or data that could be included are; music notation for specific instruments, video records, lyrics, lights control data, etc.

[0030] The multichannel record produced on demand taking in account all the particularities of the customer reproducer equipment, environment and preferences is denominated CMRF, " Customized Multichannel Recording File".

~~This business model requires access to Internet, storage capacity for music files, multi-channel reproduction capability (a channel for each speaker available) and complementary device's control capabilities, an application or embedded capabilities to determine: the customer's preferences regarding music and related media experience and the acoustic characteristic of user's environment.~~

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[003120] FIG. 1 presents a comparison between the prior art and the invented business method~~current approach and the proposal.~~

[003221] FIG. 2 presents the invented business method embodiment~~depicts the architecture of the Business Model.~~
block diagram.

[003322] FIG. 3 depicts the invented~~proposed Business Method~~Model generic process.

[0034] FIG. 4 presents example 1 of the application of the disclosed business method

[0035] FIG. 5 presents example 2 of the application of the disclosed business method

[0036] FIG. 6 presents example 3 of the application of the disclosed business method

[0037] FIG. 7 Presents a non-exhaustive list of customization parameters.

[0038] FIG. 8 Presents generic multichannel reproducing equipment.

DETAILED DESCRIPTION OF THE INVENTION

~~[0023]~~ PREFERRED EMBODIMENT

[003924] Fig 2. Shows one of the embodiments that support the invented business method using Internet as the distribution channel. The business process related to the invented method is shown in fig 3.

[0040] The description of the embodiments components selected for the explanation is:

[0041] (1) Customer; is any individual or enterprise that buy music records.

[0042] (2) Music & Content creators and providers; are the ones that generates the content in the form of music records to be sold by the vendor.

[0043] (3) Resellers; are secondary sellers in the value chain that act as distributors for the reproducers equipment and/or the CMRFs.

[0044] (4) Payment processors; are banks or credit card managers or other external organizations that validate money transactions and process the payments.

[0045] (5) Internet; is the WWW that allow data transactions in between the consumers and the vendors.

[0046] (6) Vendor WEB interface; is the vendor transactional web portal.

[0047] (7) Customer validation processor; is the functional block that perform the customer sing in, authentication, authorization and provides/gather information to/from the other software blocks specially for payment transactions.

[0048] (8) Multichannel Mixing device; is the functional block that performs the mixing of the channels of the master record contained in the Master record database (12) to produce a CMRF.

[0049] (9) Acoustic foot print processor; is the functional block that process the acoustic data obtained from the reproducer device of the consumer.

[0050] (10) Multimedia footprint processor; is the functional block that adds to the CMFR the complements required by the consumer.

[0051] (11) Transaction processor; this functional block provides the communication protocols and support the transaction that the method requires.

[0052] (12) Master Record Database; this database holds the master records from which are produced the CMRFs.

[0053] (13) Customer Acoustic Profile Database; this database keeps record of the characteristics of the reproducer equipments of the customer that have purchase CMFR at the system with the purpose of simplify the process of clients requests afterwards.

[0054] (14) Customer Database; this database keeps record of the data of the of the customer that have purchase CMFR at the system with the purpose of simplify the process of clients requests afterwards.

[0055] (15) Consumer Internet Access device; in general is a PC connected to the Internet with standard browsing capabilities.

[0056] (16) Reproducer equipment; this equipment is located at the customer side, is described detail in figure 8 and has the capabilities of download and reproduce CMRFs.

[0057] (17) Reproducer Environment; is the physical space in which the CMRF will be reproduced.

[0058] (18) Speakers; in the basic component of the speakers array supported by the reproducers equipment.

[0059] The way in which the embodiment support the invented method are described as follows:

[0060] The customer (1) through and access device, in general a personal computer connected to the Internet (15) access the Vendor Web interface (6). This is step (A) in the business method description.

[0061] The customer then interacts at the vendor's WEB site following a normal Internet browse, selection and purchase process. This is step (B) in the business method description.

[0062] Once the customer decides to purchase a CMRF:

[0063] The customer is authenticated and authorized by the customer validation processor (7) in conjunction with the Customer database (14).

[0064] A payment transaction is executed by the transaction processor (11) with the payment processors (4).

[0065] Once the payment is authorized, the transaction processor access the Customer Data base (14) ,the Customer Acoustic profile database (13) and through the Internet the customer reproducer equipment (16), with this data in conjunction with the data provided by the customer through the interaction with the vendor Web Interface (8) the transaction processor (11) instructs the multimedia footprint processor (10) and the acoustic footprint processor (9) to generate the parameters to produce a CMRF. Please refer to fig.7 for a non-exhaustive list of customization parameters.

[0066] The acoustic foot print processor (9) receives the data from transaction processor (11) and executes a process to determine the "mixing parameters" that will be used by the Multichannel mixing device (8) to produce the CMFR.

[0067] The multimedia foot print processor (10) receives the data from transaction processor (11) and execute a process to determine which other media or data needs to be gathered from the master record data base (12) to fulfill the customer requirement, then goes to the Master record Data base (12) gathers the information process it and produces a complementary file to the CMFR.

[0068] The multichannel mixing device (8) receives the mixing parameters from the acoustic foot print processor (9) gathers the master multi-channel record files from the Master record data base (12) and mixed it into a CMRF applying volume, phase, tone, filters, distortion and additions, escalation or subtraction to each individual channel to be mixed.

[0069] Once the CMRF is produced by the multi-channel mixing device is combined with the complementary file created by the multimedia footprint processor (10) and then sent to the transaction processor (11) for its deliver to the customer.

[0070] The transaction processor (11) delivers the file through the WEB interface (6) to the customer (1).

[0071] The transaction processor generates update transaction towards the vendor databases (12; 13 and 14) and towards the Music and content providers (2); payment processors (4) and resellers (3).

[0072] The process described could have many variations depending on the resellers' role or the content providers' role or because of different embodiments, but what remain the same and differentiates the invented business method is the customization and deliver of a multichannel record.

[0073] To further illustrate how the business method invented improves the prior art the following examples are presented:

[0074] Example 1: Customer is a jazz fan

[0075] The example assumes that the customer is a regular customer that has done purchases of CMRF before.

[0076] The Reproducer equipment and the reproducer environment as well as the master record source are explained in figure 4.

[0077] In this case the customer obtain a CFMR that emulates the small jazz quartet as if they were playing only for him at his living room, trumpet is clear located at the center, the drums at the left and the guitar an piano to the right.

[0078] With the prior art the customer will not be able to simulate the jazz quartet in the same way and only could locate itself in a convenient listening position.

[0079] Variations on example 1; if the customer plays trumpet, then he could order a CMFR in which trumpet could be muted, so the customer could play its own instrument using the CMFR as a playback.

[0080] Example 2: Customer is an Opera fan

[0081] The example assumes that the customer is a regular customer that has done purchases of CMRF before.

[0082] The Reproducer equipment and the reproducer environment as well as the master record source are explained in figure 5

[0083] In this case the customer obtains a CFMR that emulates a complete orchestra plus very individual voices of the operas singers.

[0084] CMFR emulation is no as direct as was in example 1 because of the very different characteristics of the theater and the reproducer environment. The invented business method offers many advantages over the prior art in this case, over the sound distribution and the directional sound, the followings are direct improvements over the prior art:

[0085] Dynamic Range; because the CMFR is a multichannel record, a very delicate sound as a soprano solo could be allocate in individual tracks with a very good signal to noise ratio while orchestra peaks could be allocate in other channels. In the prior art everything is mixed and limited to the dynamic range allowed by the media with the result that orchestra peaks are attenuated and solos amplified impairing the emotions perception.

[0086] Directionality: Singers, by means of the channel allocation can be easily allocated at some virtual point of the scenario, even the customer could select to be in the action in which case the sound could surround him.

[0087] Associated Data: the CFMR could allow the synchronization with a DVD file.

[0088] With the prior art the customer will not be able to increase the details perceptions at the level offered by the CMFR reproduction.

[0089] Variations on example 2:

[0090] The customer could order at a different price a different diva for the main passages of the opera.

[0091] Example 3: Customer is a Metal Rock fan looking for music for a party

[0092] The example assumes that the customer is not a regular customer and has recently purchased a CMFR reproduction system to be used at a party at the community event center.

[0093] The Reproducer equipment and the reproducer environment as well as the master record source are explained in figure 6.

[0094] In this case the customer has to sign up at the vendor's site and provide the information to establish a link between the vendor site and the reproducer equipment.

[0095] Once the link is established the vendor site request the reproducer equipment to inform back it set up and configuration and to perform an acoustic profile of the reproducers environment.

[0096] Once the reproducer's configuration and the reproducing environment characteristic are store in the data base the customer select the purchase of a group of records to be played a a party. In this case the customer obtains a series of CFMRs that emulates a Metal group playing at the event center at live.

[0097] The emulation is based on allocate the drums at the center while guitar and bass are at the sides, voice is distributes. Live sound is emulated using equalization.

[0098] Variations on example 3:

[0099] The customer could select and option to mute the guitar and allow the customer to play the guitar.

~~Content Provider and/or Seller Master Records Data Base~~

~~[0025] The content provider and or seller database (Original Master Record or OMR) is an organized file of master sound tracks, videos and related data files.~~

~~[0026] Content Provider and/or Seller Applications~~

~~[0027] On top of commercially available e-commerce tools the seller should have an application able to produce a CMRF (Customized Multichannel Recording File) using the customer's profile and the OMR. The CMRF will be transferred to the user's~~

~~reproducing device through Internet or other distribution channels and will be automatically created at the invented system considering:~~

~~{0028} The customer's purchased option~~

~~{0029} The customer's reproducer system's characteristics in terms of available channels, speakers type, available storage space, etc.~~

~~{0030} The customer's listening site acoustic characteristics.~~

~~{0031} Content Provider and/or Seller Web Interface~~

~~{0032} The preferred way to support the seller customers' interactions and relationships is a commercial web site. Other set ups as call centers or physical stores also could be part of the chain.~~

~~{0033} Customer Reproduction Device~~

~~{0034} The reproduction function at the customer site could be supported in a PC or in a stand-alone device. In both cases the reproduction device will support:~~

~~{0035} Multiple attached speakers' control.~~

~~{0036} Environment's acoustic characteristics determination functions.~~

~~{0037} Multichannel sound tracks storage and reproduction.~~

~~{0038} Search and structured storage functions.~~

~~{0039} Reproduction's characteristics control: volume, reverberation, echo, tone, etc.~~

~~[0040] The speakers could be specialized, i.e. woods or drums or bronzes according the end user preferences or general purpose FIG. 1.~~

~~[010041] Innovations in the disclosed Conceptual Business Method~~

~~[010142] The innovations proposed are briefly explained in FIG. 1 "Business method comparison". In the proposed model, the product is different, is comprised of a variable number of soundtracks adjusted according the customer's profile. The product has been created based on an interaction between the seller and the customer where the customer has provided preferences and/or a profile including his reproduction system's characteristics and/or the acoustic characteristics of the reproducing environment to generate the product.~~

~~[0043] To develop this proposal, a 3-layered structure comprising a Business Model, Applications and Functions has been applied (FIG. 2).~~

~~[0044] Business Model: Defines the way in which value will be created and the main characteristics of the services and products that will be made available.~~

~~[0045] Applications: Describes a group of coordinated functions that support the business model.~~

~~[0046] Functions: Constitutes the basic building blocks that support the applications, closed related to techniques or devices. This level corresponds to the Technology layer.~~

~~[0047] Because to support the proposed business model all the Functions and Technologies needed are already available and the applications needed are just an integration job the patent application was done for the layer of the Business Model.~~

~~[010248] FIG. 3 describes the Business Model Process, specifying the transactions~~

~~occurred~~occurred when an interaction between customer and seller takes place. The interaction starts with the customer's purchase of a music record, then is required by the seller to provide his preferences and/or the characteristics of his reproduction system and/or the characteristics of his -listening environment. The seller generates a Customized MultiChannel Record File (CMRF) and proceeds with the sale.

[0103049] __Invention Benefits

~~[0050] End User Experience Enhancement~~

~~[0051] Music and related industry (broadcast, storage, etc.) currently follow a massive approach, where a 2-channel version from a multichannel original recording is sold. This invention aims to expand the audio channels to as many as the customer's reproducer system could support, tailoring the record to his or her environmental acoustic characteristics. Other aid devices that could be controlled by the reproduction system to expand the customer's experience are lights, active sound absorption surfaces, computers, wireless devices, etc.~~

[0104] _____ The present business model invention has the following advantages over prior art methods.

[0105] _____ The present invention enhances the consumer experience while purchasing recording music because allow the customer to:

[0106] _____ Personalize the product within the range authorized by the seller according his/her preferences.

[0107] _____ Interact and explore choices while purchasing recorded music, this enhances the purchasing experience and add value to the product.

[0108] The present invention enhances the listening experience of recorded music because it enables:

[0109] Multichannel sound, this increase the perception of richness and profundity of the sound.

[0110] More user control, the user could act to tune or modify the sound reproduction characteristics (Bass, treble, volume, etc) over each channel what involves more the user creating a sense of ownership, therefore increasing the perceived value.

[0111] Depending on the characteristics of the reproducer equipment , please refer to FIG 8, the customer could also improve the reproduction fidelity by add specialized speakers arrangements.

[0112] The present Inventions enhances also the seller product and service by means of increase the richness and extension of the product, examples of this extensions are:

~~[0052] Purchasing Options and Artists Offerings Expansion~~

~~[0053] The CMRF opens a lot of new options to purchasers and sellers:~~

~~[0113054]~~ __Sale/Purchase the rights to a limited or unlimited system profile adaptations according customers' reproduction system improvements.

~~[0114055]~~ __Sale/Purchase a package of music to be used once at a party or event.

~~[0115056]~~ __Sale/Purchase versions for Karaoke of voices or "Instruments" (authors could include music notation~~partitures~~ and tips for difficult passages).

[0116057] __Sale/Purchase limited amount version's rights, keeping at the seller's site at the key file to be played on-line to obtain a coherent reproduction.

[0117058] __Sale/Purchase different quality levels.

[0118059] __Sale/Purchase versions for different devices (cellular phones, PDAs, car audio systems, etc.), derived from the customer edited CMRF.

[0119060] __The invention allows sellers to control the original master records, and users to keep customized copies. The proposal allows new customers' interactions (i.e. customers can propose his own version for certain channels of the recording) and new ways to increase his or her loyalty and the product's life cycle.

[0120061] __The business method disclosed also enhances the barriers for pPirate dDistribution of material protected under cCopyright_s Materials Restriction, _as customer's preferences, reproducer systems and environmental acoustic characteristics generates unique CMRFs, the invention hinders piracy by:

[0121] ~~_____ [0062]~~ Increase the technical barriers to produce the copies, this is because the CMFR is customized and could be reproduced at the expected level of quality only at the reproducer equipment and environment for which it was originally created. ~~As customer's preferences, reproducer systems and environmental acoustic characteristics generates uniques CMRFs, the invention hinders piracy by:~~

[0122063] __Offering quality versions differentiated from unauthorized copies.

[0123064] __Limiting the access to the original records.

[0124065] SharpedSharper price discrimination through quality levels, according purchaser's willingness to pay.

[0125066] Increasing customer interaction and loyalty.

~~[0067] Commercial Technology to Support the Invention~~

~~[0068] The technologies that support this type of business model are not being integrated in a commercial available product. Dividing the different process that the invented system supports we obtain:~~

~~[0069] ORIGINAL RECORDING PROCESS. In general all the technology is available and in commercial use.~~

~~[0070] CREATION OF CMRFs. The software needs to be created and supported on currently available commercial hardware and software.~~

~~[0071] INTERNET BASED BUSINESS MODEL SUPPORT. The business rules needs to be created and supported on currently available commercial hardware and software.~~

~~[0072] MULTICHANNEL STORAGE AND REPRODUCTION SYSTEMS CONNECTED TO INTERNET. Currently available audio and computer technology needs to be integrated to create this type of devices. Also the acoustic print determination function must be incorporated in this device.~~

~~[0073] SPECIALIZED SPEAKERS AND OTHER COMPLEMENTS. For the speakers, video reproducers and lights control most of the technology is available. For active sound absorption devices technology must be developed.~~

[0126074] Similar Business Model or Supporting Technologies in the Market

[0127075] __Up to my current knowledge the audio reproducing technologies that could have some similarities with the ones required to support CMRFs are DTS, Digital sound system developed by Lucas Art and focused on movie sound reproduction at the cinema and THX with similar scope and other surround techniques like ITU 5.1, ITU 7.1 etc. No one of these systems consider a customizing interaction and/or the creation of multiple different versions for multiple different customers requirements.

[0128076] __The main similarities arises from the fact that this systems looks for improve the customer experience.

ABSTRACT

A method and system for marketing multi-channels music records produced for each customer using a customization that takes in account the amount of channels enabled at the reproducer device (i.e 8, 11 or more), the type of speaker attached to each channel (i.e. bass, full range, directional. specialized for human voice, etc), the reproducing environment characteristics and customer's preferences. This advanced customization over multiple channels enables a much more rich and accurate music record reproduction than the prior art.

CLAIMS

What is claimed is:

3. A business method for sale of customized multichannel music records where the method comprises the acts of:

Electronically create an on demand a multichannel music record taking in account the customer preferences in relation to the amount of channels at the reproducer system, the type of speaker attached to each channel, the reproducer system characteristics, the reproducing environment characteristics and customer preferences related to the use of the record and optional content available for the record.

Electronically retrieve a multichannel master record from a local database or and external database of a content provider to be used a source to create a new multichannel record by mixing and combining the source channels applying audio techniques including but not limited to amplification, attenuation, phase correction, equalization, and filtering to fit a previous selection of preferences defined by the customer for at least the number of channels, type of speaker attached to each channel, the reproducer system characteristics, the reproducing environment characteristics and customer preferences related to the use of the record and optional content available for the record.

Electronically retrieve, file and apply specific customization parameters from the customer music reproduction device.

Electronically retrieve, file and apply specific customization parameters from the customer interface.

Electronically assemble the customized multichannel record with other multimedia data related to the content or customers preferences.

Deliver the customized multichannel record to the customer in an electronic way or in a physical media.

Electronically tune or adjust the customized multichannel record if the customer improves or change its reproducer equipment, in example adding more channels.
Electronically complement through an on line telecommunication network such as internet the customized multichannel record to allow its reproduction and/or to improve the richness of the record while is being played.

Electronically file and reproduce off line and or line the on demand created multichannel music record at the customer site.